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VRIJE UNIVERSITEIT BRUSSEL

PhD in Medical Sciences
2017-2018

INVITATION to the Public defence of

Amir NOEPARAST

To obtain the academic degree of **'DOCTOR IN MEDICAL SCIENCES'**

Novel therapeutic molecular targets in lung cancer: non V600 mutant BRAF and mutant HER3

Monday 2 October 2017
Auditorium **Piet Brouwers**, 17:00
Faculty of Medicine and Pharmacy, Laarbeeklaan 103, 1090 Brussel

How to reach the campus Jette:
http://www.vub.ac.be/english/infoabout/campuses

Summary of the dissertation

In contrast to classical chemo-based therapies, targeted therapies have shown to be safer and more efficient in some cancers. As opposed to classical chemotherapy, targeted therapeutics are tumor cell specific and are designed to target specific molecules that preferably only cancer cells are addicted to for their survival and/or proliferation. The ultimate goal of any "precision medicine" study is to test, develop or discover drugs which preferably target the driver oncoprotein directly or/and an effector along a pathway that is essential for the oncogenic signaling. The BCR-ABL tyrosine kinase inhibitors in chronic myeloid leukemia, HER targeting therapeutics in HER mutant lung cancer and RAF-inhibitors in BRAF mutant melanoma are some relatively successful stories of such therapies. In some cancers such as V600E BRAF mutant melanoma, combined targeting (RAF and MEK) has been shown to lead to increased efficacy while reducing the risk of resistance.

During my PhD studies, I investigated previously unexplored lung cancer-derived BRAF mutations and a HER3 mutation and their response to clinically available targeted therapeutics.

Curriculum Vitae

Education:

Doctorate candidate of Medical Sciences, molecular oncology: Vrije Universiteit Brussel. Brussels 2011-Now

Master of Biomedical Sciences, Cell and Gene Therapy: Vrije Universiteit Brussel. Brussels, Belgium

Doctor of Pharmacy (Pharm.D): Azad University, Faculty of Pharmaceutical Sciences, Tehran, Iran, 1998-2007

High School Diploma: Sharif No.1 (pirooz), Tehran, Iran, 1994-1998

Job Experience: Scientific Consultant. Gabrik Darou society, Tehran, Iran, 2007-2008

Publications (research articles):

In preparation:

Noeparast A, De Grève J De Brakeleer S, Teugels E. A lung cancer-derived CRAF mutation is ERK pathway activating and predicts sensitivity to LY3009120 and Trametinib. In course of preparation, to be submitted in oncogene

Peer-reviewed papers:

Noeparast A, Giron P, De Brakeleer S, De Ridder U, Teugels E, De Grève J. Type II RAF inhibition predicts superior ERK suppression compared to type I RAF inhibition in different BRAF mutant types recurrently found in lung cancer. Submitted in Oncotarget (under review)

Amir Noeparast, Erik Teugels , Philippe Giron , Gil Verschelden , Sylvia De Brakeleer , Lore Decoster and Jacques De Grève. Non-V600 BRAF mutations recurrently found in lung cancer predict sensitivity to the combination of Trametinib and Dabrafenib. Oncotarget (August 2016).

Umelo I, Noeparast A, Chen G, Renard M, Geers C, Vansteenkiste J, Giron P, De Wever O, Teugels E and De Greve J. Identification of a novel HER3 activating mutation homologous to EGFR-L858R in lung cancer. Oncotarget. 2015 (Shared first author)

Co-author:

Almasirad A, Shafiee A, Abdollahi M, Noeparast A, Shahrokhinejad N, Vousooghi N, Tabatabai SA and Khorasani R. Synthesis and analgesic activity of new 1,3,4-oxadiazoles and 1,2,4-triazoles. Medicinal Chemistry Research. 2011

Languages: English (fluent), French (good), Dutch (elementary), Russian (elementary), Persian (native), Arabic (passive)

Awards: Winner of "Prijs Kankeronderzoek" (Cancer research prize) of the oncology Research Center (ORC) of Vrije Universiteit Brussel, august 2016

Special Skills: Molecular biology techniques and in specific Protein detection, cell manipulation, gene cloning, in-vitro mutagenesis, PCR, different Transfection methods and trained for CRISPR/CAS9 application (Thermo Fisher Scientific Life Technologies GmbH, Germany), basic mouse handling, basic bioinformatics application for biomedical research.

Other activities: Author of prose fiction

*During my master studies, I passed the course of "Molecular Targets in Cancer" (Grade: 16/20)